R E M A R K S

The specification has been amended to indicate that color photographs are included in the application as required by 37 C.F.R. § 1.84(a)(2)(iii).

The specification has also been amended to correct typographical errors in formatting the Tables which appear on pages 41, 42, , 44, 45, 51, and 52. In each of the amended Tables, the formatting of the portion of the Tables which appears on the right hand side of the page has been amended to conform it to the formatting of the left hand portion of the Table on the same page.

These amendments do not introduce new matter.

Applicant respectfully requests entry of this Preliminary Amendment prior to examination of the present application.

Dated: ____July 5, 2001____

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APPENDIX I

MARKED-UP VERSION OF SPECIFICATION'S REPLACEMENT PARAGRAPHS

The following is a marked-up version of the specification's replacement paragraphs pursuant to 37 C.F.R. §1.121(b) instructions and markings showing changes made herein to the previous version of record of the specification.

IN THE SPECIFICATION:

On page 10, line 5, please insert the following as a separate new paragraph:

The file of this patent contains at least one drawing executed in color. Copies of this patent with color drawings will be provided by the Patent and Trademark Office upon request and payment of the necessary fee.

On pages 41, 42, 44, 45, 51, and 52, please amend the Tables appearing on those pages as shown by the markings in red ink on the pages which have corresponding page numbers and which are enclosed at Tab 2.

Table 2. Detection of Echoviruses Using BGMK (BG) Cells And BGMK-hDAF (BG-D) Cells

Echo-4	*	DAY 1		DAY 2		DAY 3	
		BG	BG-D	BG	BG-D	BG	BG-D
-1		1+	2+	2+	3+	3+	3+
		1+	2+	2+	3+	3+	3+
-2		1+	2+	1+	2+	2+	2+
		1+	2+	1+	2+	2+	2+
-3		-	1+	-	1+	2+	2+
		-	1+	-	1+	2+	2+
-4		-	-	-	-	2+	1+
		-	-	-	-	1+	1+
-5		-	-	-	-	1+	·1+
		-	-	-	-	-	-
-6		-	-	-	-	-	-
		-	-	-	-	-	-

Echo-9	*	DAY 1		DAY 2		DAY 3	
		BG	BG-D	BG	BG-D	BG	BG-D
-1		2+	3+	4+	4+	4+	4+
		2+	3+	4+	4+	4+	4+
-2		1+	2+	4+	4+	4+	4+
		1+	2+	4+	4+	4+	4+
-3		-	1+	3+	3+	4+	4+
		-	1+	3+	3+	4+	4+
-4		-	-	2+	2+	3+	3+
		-	-	2+	2+	3+	3+
-5		-	-	1+	1+	2+	2+
		-	-	-	-	-	-
-6		-	-	-	-	-	-
		-	-	-	-	-	-
-7		-	-	-	-	-	-
		-	-	-	-	-	-
-8		-	-	-	-	-	-
		-	-	-	-	-	-

Table 2. Detection of Echoviruses Using BGMK (BG) Cells And BGMK-hDAF (BG-D) Cells

ADD DELETE ADD DELETE

Echo-6	*	DAY 1		DAY 2		DAY 3	
		BG	BG-D	BG	BG-D	BG	BG-D
-1		-	4+	-	4+	-	4+
		-	4+	-	4+	-	4+
-2		-	4+	-	4+	-	4+
		-	4+	-	4+	-	4+
-3		-	4+	-	4+	-	4+
		-	4+	-	4+	-	4+
-4		-	4+	-	4+	-	4+
		-	4+	-	4+	-	4+
-5		-	1+	-	4+	-	4+
		-	1+	-	4+	-	4+
-6		-	1+	-	4+	-	4+
		-	1+	-	4+	-	4+
-7		-	1+	-	4+	-	4+
		-	-	-	4+	-	4+
-8		-	-	-	4+	-	4+
		-	-	-	-	-	-

Echo-11	*	DAY 1		DAY 2		DAY 3	
		BG	BG-D	BG	BG-D	BG	BG-D
-1		-	4+	-	4+	-	4+
		-	4+	-	4+	-	4+
-2		-	4+	-	4+	-	4+
		-	4+	-	4+	-	4+
-3		-	3+	-	4+	-	4+
		-	3+	-	4+	-	4+
-4		-	2+	-	4+	-	4+
		-	2+	-	4+	-	4+
-5		-	1+	-	4+	-	4+
		-	1+	-	4+	-	4+
-6		-	1+	-	3+	-	4+
		-	1+	-	3+	-	4+
-7		-	-	-	1+	-	2+
		-	-	-	1+	-	3+
-8		-	-	-	-	-	-
		-	-	-	-	-	-

addition to the detection of a higher dilution of these echoviruses, BGMK-DAF also showed earlier detection of higher dilutions of these echoviruses.

For echovirus-6 and echovirus-11, BGMK cells failed to detect these two viruses. Importantly, in contrast, BGMK-hDAF cells detected highly diluted virus by day 1. While not intending to limit the invention to any particular mechanism, these results indicate that hDAF is essential for entry of these two viruses into BGMK cells.

B.   Coxsackie Viruses

BGMK cells are the most sensitive cell line for the detection of Coxsackie B viruses and some Coxsackie A viruses. BGMK and BGMK-hDAF were compared for the detection of Coxsackie viruses A9, B1, B2, B4, and B5. The results are shown in Table 3.

Table 3. Detection of Coxsackie Viruses Using BGMK (BG) Cells And BGMK-hDAF (BG-D) Cells

Cox B1	*	DAY 1		DAY 2		DAY 3	
		BG	BG-D	BG	BG-D	BG	BG-D
-1		2+	4+	4+	4+	4+	4+
		2+	4+	4+	4+	4+	4+
-2		1+	4+	4+	4+	4+	4+
		1+	4+	4+	4+	4+	4+
-3		1+	4+	4+	4+	4+	4+
		1+	4+	4+	4+	4+	4+
-4		1+	3+	4+	4+	4+	4+
		1+	3+	4+	4+	4+	4+
-5		-	2+	4+	4+	4+	4+
		-	2+	4+	4+	4+	4+
-6		-	1+	2+	4+	4+	4+
		-	1+	2+	4+	4+	4+
-7		-	-	-	2+	-	4+
		-	-	-	-	-	-

Cox B5	*	DAY 1		DAY 2		DAY 3	
		BG	BG-D	BG	BG-D	BG	BG-D
-1		2+	4+	4+	4+	4+	4+
		2+	4+	4+	4+	4+	4+
-2		2+	4+	4+	4+	4+	4+
		2+	4+	4+	4+	4+	4+
-3		2+	4+	4+	4+	4+	4+
		2+	4+	4+	4+	4+	4+
-4		1+	2+	4+	4+	4+	4+
		1+	3+	4+	4+	4+	4+
-5		-	2+	4+	4+	4+	4+
		-	2+	4+	4+	4+	4+
-6		-	1+	1+	4+	4+	4+
		-	-	2+	4+	4+	4+
-7		-	-	-	-	-	4+
		-	-	-	-	-	-

Table 3. Detection of Coxsackie Viruses Using BGMK (BG) Cells And BGMK-hDAF (BG-D) Cells

ADD *DELETE* *ADD* *DELETE* *DELETE*

Cox B2	*	DAY 1		DAY 2		DAY 3	
		BG	BG-D	BG	BG-D	BG	BG-D
-1		3+	4+	4+	4+	4+	4+
		3+	4+	4+	4+	4+	4+
-2		3+	4+	4+	4+	4+	4+
		3+	4+	4+	4+	4+	4+
-3		2+	3+	4+	4+	4+	4+
		2+	3+	4+	4+	4+	4+
-4		2+	2+	4+	4+	4+	4+
		2+	2+	4+	4+	4+	4+
-5		1+	1+	4+	4+	4+	4+
		1+	1+	4+	4+	4+	4+
-6		1+	1+	3+	3+	4+	4+
		-	1+	3+	3+	4+	4+
-7		-	1+	-	2+	3+	4+
		-	-	-	-	-	-

Cox A9	*	DAY 1		DAY 2		DAY 3	
		BG	BG-D	BG	BG-D	BG	BG-D
-1		2+	4+	4+	4+	4+	4+
		2+	4+	4+	4+	4+	4+
-2		2+	4+	4+	4+	4+	4+
		2+	4+	4+	4+	4+	4+
-3		2+	4+	4+	4+	4+	4+
		2+	4+	4+	4+	4+	4+
-4		1+	4+	4+	4+	4+	4+
		1+	4+	4+	4+	4+	4+
-5		1+	4+	4+	4+	4+	4+
		1+	4+	4+	4+	4+	4+
-6		-	2+	4+	4+	4+	4+
		-	2+	4+	4+	4+	4+
-7		-	1+	4+	4+	4+	4+
		-	1+	4+	4+	4+	4+
-8		-	1+	-	4+	-	4+
		-	-	-	-	-	-

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The experiments described above in Example 2 were repeated using H292 and H292-hDAF cells instead of BGMK and BGMK-hDAF cells. Briefly, several echoviruses and Coxsackie viruses were serially diluted and inoculated into wells containing H292 and H292-hDAF cells and the CPE were observed daily. The results of these experiments are shown in Tables 6 and 7.

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Table 6. Detection Of Echoviruses Using H_{292} Cells and H_{292}-hDAF (H_{292}-D) Cells

(handwritten: DELETE ADD DELETE ADD DELETE)

Echo-4	*	DAY 1		DAY 2		DAY 3	
		H_{292}	H_{292}-D	H_{292}	H_{292}-D	H_{292}	H_{292}-D
-1		1+	1+	2+	2+	4+	4+
		1+	1+	2+	2+	4+	4+
-2		1+	1+	2+	2+	3+	3+
		1+	1+	2+	2+	3+	3+
-3		-	-	1+	1+	3+	3+
		-	-	1+	1+	3+	3+
-4		-	-	1+	1+	3+	2+
		-	-	1+	1+	3+	2+
-5		-	-	-	-	2+	2+
		-	-	-	-	2+	1+
-6		-	-	-	-	-	-
		-	-	-	-	-	-

Echo-9	*	DAY 1		DAY 2		DAY 3	
		H_{292}	H_{292}-D	H_{292}	H_{292}-D	H_{292}	H_{292}-D
-1		1+	1+	2+	2+	4+	4+
		1+	1+	2+	2+	4+	4+
-2		1+	1+	2+	2+	4+	4+
		1+	1+	2+	2+	4+	4+
-3		-	-	1+	1+	3+	3+
		-	-	-	1+	3+	3+
-4		-	-	-	-	3+	3+
		-	-	-	-	-	3+
-5		-	-	-	-	-	-
		-	-	-	-	-	-
-6		-	-	-	-	-	-
		-	-	-	-	-	-

Table 6. Detection Of Echoviruses Using H_{292} Cells and H_{292}-hDAF (H_{292}-D) Cells

DELETE   ADD   DELETE ADD DELETE

Echo-6	*	DAY 1		DAY 2		DAY 3	
		H_{292}	H_{292}-D	H_{292}	H_{292}-D	H_{292}	H_{292}-D
-1		1+	1+	2+	2+	3+	3+
		1+	1+	2+	2+	3+	3+
-2		-	-	1+	1+	2+	2+
		-	-	1+	1+	2+	2+
-3		-	-	1+	1+	2+	2+
		-	-	1+	1+	2+	2+
-4		-	-	-	1+	1+	1+
		-	-	-	-	1+	1+
-5		-	-	-	-	1+	1+
		-	-	-	-	-	1+
-6		-	-	-	-	-	-
		-	-	-	-	-	-
-7		-	-	-	-	-	-
		-	-	-	-	-	-
-8		-	-	-	-	-	-
		-	-	-	-	-	-

Echo-11	*	DAY 1		DAY 2		DAY 3	
		H_{292}	H_{292}-D	H_{292}	H_{292}-D	H_{292}	H_{292}-D
-1		2+	2+	3+	3+	4+	4+
		2+	2+	3+	3+	4+	4+
-2		1+	1+	2+	2+	4+	4+
		1+	1+	2+-	2+-	4+-	4+-
-3		-	-	2+	2+	3+	3+
		-	-	2+	2+	3+	3+
-4		-	-	2+	2+	3+	3+
		-	-	2+	2+	3+	3+
-5		-	-	1+	1+	3+	3+
		-	-	-	-	3+	3+
-6		-	-	-	-	2+	2+
		-	-	-	-	-	2+
-7		-	-	-	-	-	-
		-	-	-	-	-	-
-8							

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